AIR FORCE

QUALIFICATION TRAINING PACKAGE (AFQTP)

for

ENVIRONMENTAL

(3E4X3)

MODULE 12

AFS SPECIFIC HEALTH AND SAFETY

TABLE OF CONTENTS

MODULE 12
AFS SPECIFIC HEALTH AND SAFETY

Career Field Education and Training Plan (CFETP) references from 1 Apr 97 version.

OPR: HQ AFCESA/CEOF
AFCESA/CEO
(SMSgt Jim Lucas)

Certified by: HQ
(Colonel Lance C. Brendel)

2**Notice.** This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

AIR FORCE QUALIFICATION TRAINING PACKAGES
for
ENVIRONMENTAL
(3E4X3)

INTRODUCTION

Before starting this AFQTP, refer to and read the "Trainee/Trainer Guide" located on the AFCESA Web site **http://www.afcesa.af.mil/**

AFQTPs are mandatory and must be completed to fulfill task knowledge requirements on core and diamond tasks for upgrade training. ***It is important for the trainer and trainee to understand*** that an AFQTP ***does not*** replace hands-on training, nor will completion of an AFQTP meet the requirement for core task certification. AFQTPs will be used in conjunction with applicable technical references and hands-on training.

AFQTPs and Certification and Testing (CerTest) must be used as minimum upgrade requirements for Diamond tasks.

MANDATORY minimum upgrade requirements:

Core task:
AFQTP completion
Hands-on certification

Diamond task:
AFQTP completion
CerTest completion (80% minimum to pass)

Note: *Trainees will receive hands-on certification training for Diamond Tasks when equipment becomes available either at home station or at a TDY location*.

Put this package to use. Subject matter experts under the direction and guidance of HQ AFCESA/CEOT revised this AFQTP. If you have any recommendations for improving this document, please contact the Career Field Manager at the address below.

HQ AFCESA/CEOF
139 Barnes Dr. Suite 1
Tyndall AFB, FL 32403-5319
DSN: 523-6380, Comm: (850) 283-6380
Fax: DSN 523-6488
E-mail: ceof.helpdesk.@tyndall.af.mil

3**Notice.** This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

PESTICIDE LABEL COMPREHENSION

MODULE 12 **AFQTP UNIT 2**

INTERPRET PARTS OF LABEL (12.2.1.)

IDENTIFY SIGNAL WORDS/SYMBOLS (12.2.2.)

4**Notice.** This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

INTERPRET PARTS OF LABEL

IDENTIFY SIGNAL WORDS/SYMBOLS

Task Training Guide

STS Reference Number/Title:	12.2.1., Interpret Parts Of Label 12.2.2., Identify Signal Words/Symbols
Training References:	• EPA Applying Pesticides Correctly, Unit 2. • 40 CFR 156.10 (NOTE TO MSGT RON BROWN THIS IS A DIFFERENT REFERENCE THAN IS IN THE CFETP AND NEEDS TO BE UPDATED TO REFLECT THE CORRECT REFERENCE.)
Prerequisites:	• Possess as a minimum a, 3E433 AFSC.
Equipment/Tools Required:	• Pesticide labels.
Learning Objective:	• The trainee should learn to identify and interpret pesticide label information.
Samples of Behavior:	• Trainee should able to interpret pesticide label information.
Notes:	
• The trainee must demonstrate his/her ability to operate equipment to complete this lesson--on exceptions.	

INTERPRET PARTS OF LABEL

IDENTIFY SIGNAL WORDS/SYMBOLS

Background: Federal law, as administered by the Environmental Protection Agency (EPA) controls the manufacture, sale, and application of pesticides. Key to communicating these requirements is the pesticide label. It includes information about storage, use, protective equipment, and other like requirements. Pesticide labels are approved during the registration process, and provides detailed directions and precautions for using each pesticide safely and legally. The label also contains important information about the active ingredients, the manufacturer, and the signs, symptoms and treatment of accidental poisoning. It's very important to follow the labeling instructions when using any pesticide product. Using a pesticide in a manner inconsistent with the labeling is a violation of federal and state laws. This labeling action also permits the pesticide companies to distribute their products for sale in the United States. The EPA requires all pesticide container labels to meet certain standards. For example, all pesticide labels will be in English. The manufacturer may include a secondary language, however the primary label must be in English. Likewise, the pesticide label must be securely attached to the container. Further, because the pesticide label has the effect of law, it is prohibited for the manufacturer to provide misleading information on the label.

1. **Identify Product Name, Brand, or Trademark:** The manufacturer develops a pesticide's brand name. The company then uses this name for advertising the product and is the product's most identifiable name. This name, including brand names and trademarks, must be plainly displayed on the product label's front panel. A manufacturer may also elect to use a "common name." All chemicals have a scientific name. Many times chemicals with a complex scientific name are also given a simpler common name. Both the scientific name and the common name will be the same for every company. The brand name will differ depending on which company made the chemical.
2. **Locate the Manufacturer's Name and Address:** The name and address of the company that made or distributed the product must be on the label. This way the purchaser knows who made or sold the product and can contact them if necessary. Companies must also provide materials safety data sheets upon request.
3. **Determine Container's Net Contents:** The label must show how much of the product is in the container. This can be expressed in ounces, liters, pounds, or other units.
4. **Locate Product Registration and Manufacturer Establishment Numbers:** Every pesticide on the market must be registered with the Environmental Protection Agency of the federal government. The registration number must be on the front panel of the label and is written as "EPA Registration No.XXX." The establishment number, which is a code for which factory makes the chemical, must also be on every pesticide container. It usually appears under the registration number.
5. **Locate Ingredient Statement:** Every pesticide label must list what is in the product. It must show total percent by weight that is the active ingredient and the percent by weight that is inert ingredient. The names of the active ingredients must be shown either by chemical name

6**Notice.** This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

or common name followed by the chemical name. The EPA may require any inert ingredients to be listed is they pose a hazard to human health or the environment. Unless approved by the EPA, the ingredient statement will be clearly visible on the front panel of the label. If a pesticide significantly changes in chemical composition over time, it must state "Not for sale or use after [date]." This statement must be in a prominent position on the label. A pesticide may be available in more than one type of formulation - liquids, wettable powders, emulsifiable concentrations, dusts, and others. Different types of formulations require different methods of handling. The label will say what type of formulation the package contains and how to properly use it.

6. **Interpret Warning or Precautionary Statements:** Every pesticide container must bear the statement "KEEP OUT OF REACH OF CHILDREN" on the front label. However, if the pesticide is approved for use on infants and small children, the EPA may wave this statement. The warning or precautionary statements also include three subcategories: hazards to humans and domestic animals, environmental hazards, and physical or chemical hazards.
   a. *Hazard to Humans and Domestic Animals*: When a pesticide is a hazard to humans and domestic animals, the precautionary statement must list the particular hazard, the route of exposure, and the precautions to be taken to avoid accident, injury or damage. This precautionary statement shall be preceded by the appropriate signal word. We will discuss "signal words" in a later lesson.
   b. *Environmental Hazards:* Where a hazard exists to non target organisms (excluding humans and domestic animals) a precautionary statement is necessary to stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury or damage.
   c. *Physical or Chemical Hazards:* This warning is required for pesticides that are flammable or explosive. Key to this warning is that these pressurized pesticide containers will burst at temperatures above 130°F. Non pressurized pesticide containers must be kept away from heat and open flame sources. Additional warnings are necessary for pesticides with a flash point less than 80°F, and more restrictive if the flash point is less than 20°F.
7. **Interpret Directions for Use:** The instructions on the label must tell you how to use the product properly within its legal requirements for the best results. Immediately after the *Directions for Use* statement the following must be on the label: "It is a violation of federal law to use this product in a manner inconsistent with its labeling." The directions will tell you:
   - The pests the product is registered to control.
   - The crops, animals or other items the products can be used on.
   - In what form the product should be applied.
   - How to apply the product.
   - How much to use.
   - Where it should be applied.
   - When it should be applied.
   - How frequently it should be applied.
   - How soon the crop may be used or eaten after the product is applied.
8. **Interpret Statement of Use Classification:** EPA classifies pesticides into two categories: general use pesticides and restricted use pesticides and must be labeled accordingly. Restricted use pesticides — which make up about a quarter of total pesticides used — may be applied only by or under the direct supervision of trained and certified applicators.

7**Notice.** This AFQTP is <u>*NOT*</u> intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

9. **Interpret Signal Words and Symbols:** The EPA classifies pesticides according to one of four toxicity levels. Manufacturers must identify the toxicity classification on the front panel. The four categories include:
   a. **Toxic Category I:** These pesticides contain the signal word "DANGER." If its toxic level is based on oral, inhalation, or dermal effects, the word "POSION." The label will also contain a graphic of skull and crossbones.
   b. **Toxic Category II:** Pesticides within this category will have the word "WARNING."
   c. **Toxic Category III:** Pesticides within this category will have the word "CAUTION."
   d. **Toxic Category IV:** Pesticides within this category will also have the word "CAUTION."

   In addition to the above symbol and signal words, all highly flammable pesticide containers will display a graphic depicting fire.

Review Questions
for
Interpret Parts of Label

Identify Signal Words/Symbols

Question	Answer
1. What communicates specific pesticide usage requirements to the applicator?	a. Pesticide label b. Material Safety Data Sheet c. 40 CFR Part 156.10, *Labeling Requirements* d. Air Force Technical Orders
2. What language(s) does the EPA require labels to be printed in?	a. English only b. English and Spanish only c. English and French only d. English, French, and Spanish
3. What simple pesticide name does all manufacturers use to identify a product?	a. Common name b. Brand name c. Scientific name d. Trade name
4. What is true about the manufacturer's establishment number?	a. It usually appears beneath the registration number. b. It must be on the label's front panel c. It is the same as the pesticide registration number d. It is stated as "EPA Registration No. XXX"
5. What unit(s) are a container's net contents expressed in?	a. Gallons only b. Pounds only c. Quarts and gallons only d. Any standardized unit
6. What part of the pesticide label lists how, where, and when to apply a product?	a. Statement for use b. Environmental Hazard statement c. Directions for use d. Warning and Precautionary statement
7. Pesticide are available in more than one formulation.	a. True b. False

9**Notice.** This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

Review Questions
for
Interpret Parts of Label

Identify Signal Words/Symbols

Question	Answer
8. What part of the label provides information about environmental hazards?	a. Warning and Precautionary statement b. Directions for use statement c. Statement of use classification d. Ingredient statement
9. Why must pressurized pesticide contain a warning or precautionary statement?	a. The container will burst at temperatures above 130°F b. The container will implode at heights above 2,000 feet above sea level c. The container deteriorates rapidly after its expiration date d. The pesticide deteriorates rapidly after its expiration date
10. What are the two EPA pesticide classifications?	a. General and restricted use b. Restricted and non restricted use c. Target and non target applications d. Commercial and industrial applications
11. What is the signal word for Toxic Category II pesticides?	a. Danger b. Poison c. Warning d. Caution

INTERPRET PARTS OF LABEL

IDENTIFY SIGNAL WORDS/SYMBOLS
(Note: Trainer may use attached pesticide label document)

Performance Checklist		
Step	**Yes**	**No**
1. Did the trainee know the parts of a label?		
2. Did the trainee identify label symbols?		
3. Did the trainee know correct signal words?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

ENVIRONMENTAL

MAINTAIN AND USE REQUIRED PEST MANAGEMENT SAFETY PROTECTIVE EQUIPMENT

MODULE 12 **AFQTP UNIT 3 & 4**

GLOVES (12.3.1. & 12.4.1.)

APRONS (12.3.2. & 12.4.2.)

FACE SHIELDS/GOGGLES (12.3.3. & 12.4.3.)

HEARING PROTECTION (12.3.4. & 12.4.4.)

COVERALLS (12.3.5. & 12.4.5.)

BOOTS (13.3.6. & 12.4.6.)

RESPIRATORS (12.3.7. & 12.4.7.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

GLOVES, APRONS, FACE SHIELDS/GOGLES HEARING PROTECTION, COVERALLS BOOTS & RESPIRATORS

Task Training Guide

STS Reference Number/Title:	12.3.1. & 12.4.1., Gloves; 12.3.2. & 12.4.2., Aprons; 12.3.3. & 12.4.3., Face Shields/Goggles; 12.3.4. & 12.4.4., Hearing Protection; 12.3.5. & 12.4.5., Coveralls; 12.3.6. & 12.4.6., Boots; 12.3.7. & 12.4.7., Respirators
Training References:	• 40 CFR 156.212 (NOTE TO MSGT RON BROWN THESE ARE ADDITIONAL REFERENCE TO THE CFETP.) • AFOSH Standard 48-8, *Controlling Exposures to Hazardous Chemicals* • AFOSH Standard 48-137, *Respiratory Protection Program* • AFOSH Standard 91-10, *Civil Engineering* • AFOSH Standard 91-31, *Personal Protective Equipment* • AFOSH Standard 91-68, *Chemical Safety* • 29 CFR 1910.132 through 1910.136 and 1910.138 •
Prerequisites:	• Possess as a minimum, a 3E433 AFSC.
Equipment/Tools Required:	• Gloves (Unlined rubber, Unlined nitrile and Leather work). • Face shield. • Rubber apron. • Cloth coveralls. • Tyvex coveralls. • Rubber boot (Fireman style or Hazmat style). • Full-face respirator hard hats. • Waterproof hats. • Hearing protection
Learning Objective:	• The trainee should learn the steps to maintain their PPE.
Samples of Behavior:	• Trainee should be able to apply the maintenance steps for their PPE.
Notes:	
• To successfully complete this element, follow the steps outlined in the lesson--no exceptions. Any safety violation is an automatic failure.	

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

GLOVES

APRONS

FACE SHIELDS/GOGGLES

HEARING PROTECTION

COVERALLS

BOOTS

RESPIRATORS

Background: The Environmental Protection Agency (EPA) defines pesticide application personal protective equipment (PPE) as clothing and devices that are worn to protect the human body from contact with pesticides or pesticide residues. Personal protective equipment includes such items as coveralls or protective suits, footwear, gloves, aprons, full-face respirators and headgear. It does not include ordinary shirts, pants, shoes and other regular work clothing. This definition only applies to pesticide applicators for many other crafts have their own applicable PPE definition.
PPE requirements are on the pesticide label under the "Hazards to Humans and Domestic Animals" statement. Additional requirements for early-entry workers are under the "Directions For Use" section following the "restricted entry" statement. By federal law you must adhere to all PPE instructions on the pesticide label. Because Bioenvironmental Engineering personnel must fit test respirators for each person, you should have your own PPE and refrain from borrowing someone else's.

These are the steps to wearing and maintaining personal protective equipment.

> **NOTE:**
> Refer to the manufacturer's instructions for proper inspection, wear, cleaning and storage.

- **GLOVES:**
  - **Selecting:**
    - Select gloves based on the pesticide label instructions
    - One type of glove will not work for all applications (i.e., water proof vs. chemical resistant)
    - Select the size to fit your hands
      - Gloves that are too small may cut off circulation
      - Gloves that are too large may become a safety hazard
  - **Inspecting:**
    - Inspect gloves and liners for serviceability, check for

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

  - Holes
  - Tears
  - Deterioration
- **Wearing:**
  - Except for overhead spraying operations, wear gloves on the inside of both the cloth and Tyvex® coveralls
  - When wearing gloves outside the coveralls, roll the cuffs up (This prevents pesticides from entering the coveralls)
- **Cleaning:**
  - Clean by flushing the inner and outer surfaces of the gloves with water
  - Hang the gloves over the mixing sink by the index finger tip and allow to air dry

NOTE: Some gloves will begin to break down after application of soap. Only use plain water unless otherwise specified by the manufacturer. Gloves should be allowed to dry indoors and away from direct sunlight.

- **Inspecting:**
  - Inspect gloves and liners for serviceability
    - Holes
    - Tears
    - Dry rot
    - Pesticide residue (clean again if necessary)
- **Storage:**
  - Store in a dry, cool location (avoid direct sunlight)

FACE SHIELD & GOGGLES:

- **Selecting:**
  - Check pesticide container to see if application requires eye protection
  - Wear a face shield when mixing pesticides
  - Ensure band will not absorb pesticides
- **Inspecting:**
  - Inspect face shield and goggles for serviceability
    - Scratches
    - Breaks and other damage
    - Cleanliness
- **Wearing:**
  - Ensure eye protection fits snugly without interfering with movements or vision
  - Clean as necessary to prevent vision impairment
- **Cleaning:**
    - Clean with soap and water
    - Disinfect with germicidal deodorant fungicide solution for 10 minutes
    - Remove parts from solution and suspend in clean place after air drying at room temperature or with heated air

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

> **NOTE:**
> Do not rinse after removing parts from the solution because this will remove the germicidal residue which retains its effectiveness after drying.

- **Inspecting:**
  - Inspect face shield and goggles for serviceability, check for
    - Scratches
    - Breaks and other damage
    - Cleanliness
    - Pesticide residue (clean again if necessary)
- **Storage:**
  - Store in a dry, cool location (avoid direct sunlight)

APRONS:

- **Selecting:**
  - Select an apron to fit your height and size
  - Wear a rubber apron when mixing pesticides
- **Inspecting:**
  - Inspect apron for serviceability
    - Holes
    - Tears
    - Cleanliness
    - Dry rot
- **Wearing:**
  - Ensure apron fits snugly without interfering with movement
- **Cleaning:**
  - Clean with soap and water
  - Allow apron to suspend in clean place to air dry
- **Inspecting:**
  - Inspect apron for serviceability
    - Holes
    - Tears
    - Cleanliness
    - Dry rot
    - Pesticide residue (clean again if necessary)
- **Storage:**
  - Store in a dry, cool location (avoid direct sunlight)

RESPIRATORS

- **Selecting:**
  - Select breathing protection devices based on pesticide label instructions
  - Select the proper respirator size based on the fit test by medical personnel
  - Respirators must have National Institute of Occupational Safety and Health (NIOSH) certification

- **Inspecting:**
  - Inspect respirator for serviceability (at least monthly)
    - Holes
    - Tears
    - Cleanliness
    - Dry rot
    - Good working order (replace cartridge filters as necessary)
- **Wearing:**
  - Ensure respirator fits snugly without interfering with movement or vision
  - Conduct a seal test to ensure a proper fit
- **Cleaning:**
  - Clean with soap and water
  - Disinfect respirator as necessary to maintain sanitary conditions
  - Allow respirator to suspend in clean place to air dry
- **Inspecting:**
  - Inspect respirator for serviceability
    - Holes
    - Tears
    - Cleanliness
    - Dry rot
    - Good working order (replace cartridge filters as necessary)
- **Storage:**
  - Store according to the following conditions:
    - Protected from damage, damage, sunlight extreme temperature, excessive moisture, and damaging chemicals,
    - Pack or store to prevent deformation of the face piece and exhalation valve

BOOTS:

- Wear based on pesticide label requirements
- Wear rubber boots when mixing pesticides

HEARING PROTECTION

- Wear based on pesticide label or equipment manufacturers requirements (which ever is more strict)
- Inspect for serviceability before and after use
- Clean after use

Review Questions
for
GLOVES

APRONS

FACE SHIELDS/GOGGLES

HEARING PROTECTION

COVERALLS

BOOTS

RESPIRATORS

Question	Answer
1. What makes up personal protection equipment (PPE) according to the Environmental Protection Agency (EPA)?	a. Hardhats, respirators, hearing protection b. Hardhats, regular work clothing, respirators c. Gloves, aprons, regular work clothing d. Gloves, hardhats, apron, respirators, regular work clothing
2. Where must pesticide manufactures list PPE requirements?	a. "Direction for Use" and "Hazard to Humans and Domestic Animals" label statements b. Application equipment instructions and pesticide container label c. 40 Code of Federal Regulation (CFR) Part 156.212, *Personal protective equipment statements* d. 29 Code of Federal Regulation (CFR) Part 1910.132, *General requirements*
3. Who conducts the respirator fit test?	a. Bioenvironmental Engineering b. Base Fire Department c. Military Public Health d. Pesticide Shop supervisor
4. What pesticide applications required gloves to be worn on the outside of the coveralls?	a. Overhead spraying b. Crack and crevice c. Maggot surveys d. Grub worm surveys

Question	Answer
5. How often must you disinfect your respirator?	a. At least monthly b. At least weekly c. At least daily d. Before and after every use
6. Which is true about cleaning gloves?	a. Flush both the inside and outside b. Always use soap c. Allow to dry outdoors d. Keep away from the mixing sink
7. Which is true about disinfecting face shields and goggles?	a. Use a 10% deodorant fungicide solution b. Liberally rinse with water after disinfecting c. Place in direct sunlight to speed drying d. Do not use heated air to speed drying

GLOVES

APRONS

FACE SHIELDS/GOGGLES

HEARING PROTECTION

COVERALLS

BOOTS

RESPIRATORS

Performance Checklist		
Step	**Yes**	**No**
1. Did trainee acquire his/her personal protective equipment?		
2. Did trainee select PPE according to label directions or application equipment manufacture's requirements?		
3. Did trainee don the PPE correctly?		
4. Did trainee perform a pre- and post-inspection of PPE?		
5. Did trainee properly maintain PPE?		
6. Did trainee properly store PPE?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

ENVIRONMENTAL

APPLY FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

MODULE 12 **AFQTP UNIT 5**

ORAL (12.5.1.)

DERMAL (12.5.2.)

RESPIRATORY (12.5.3.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

Task Training Guide

STS Reference Number/Title:	12.5.1., Oral 12.5.2, Dermal 12.5.3, Respiratory
Training References:	• Military Pest Management Handbook • EPA-Applying Pesticides Correctly, Unit 6 (NOTE for MSgt Ron Brown: Due to the unavailability of these sources, this lesson should be check to ensure there are not conflicts)
Prerequisites:	• Possess as a minimum, a 3E433 AFSC.
Equipment/Tools Required:	• Material Safety Data Sheets • Pesticide Labels
Learning Objective:	• Trainee should be able to identify type of poisoning and administer appropriate first aid procedures
Samples of Behavior:	• Trainee should be able to explain oral poisoning and administer appropriate first aid procedures.
Notes:	
• To successfully complete this element follow the steps outlined in the lesson no--exceptions. • Any safety violation is an automatic failure.	

FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

BACKGROUND:
Pesticides are designed to kill dangerous or nuisance animals, insects, and plants. Many pesticides do this by disrupting life sustaining bodily functions including the respiratory, nervous, and circulatory systems. Unfortunately, these same pesticides will make us ill or even kill us. Seek medical help quickly if you or your co-workers develop unexplained illnesses. Don't let yourself or anyone else who applies pesticides get dangerously sick before seeking medical help. Here, it is better to be too cautions than too late. Secure copies of Material Safety Data Sheets (MSDS) and copies of the pesticide labels (you should keep copies of pesticide labels in your shop for such occasions) and take them to the physician. If you must take the pesticide container do not place it in the passenger space of the vehicle and don't take it into the hospital (leave it secured in the back of the vehicle).

PESTICIDE POISONING:
For the purpose of this lesson, we use the term "pesticide poisoning" to refer to the unintentional poisoning of the pest management personnel. Although the first aid procedures are the same for non-pesticide applicators, the risk of Environmental personnel being poisoned is much higher. There are three types of pesticide poisoning—oral, dermal, and respiratory. Each has its own way of entering the system and each have different first aid treatments.

- **ORAL POISONING:** Oral poisoning occurs when pesticides are ingested into the body. Common activities that lead to ingestion poisoning include:
  - Not washing hands before eating
  - Not showering after applying pesticides
  - Smoking during or shortly after applying pesticides
    - Pesticides may be transferred from the hands, to the cigarette, to the mouth
    - An open pack of cigarettes may absorb the pesticides
  - Using damaged gloves
  - Eating during or shortly after applying pesticides

  Drinking pesticide contaminated water

- **FIRST AID:**

The best first aid in pesticide emergencies is to stop the source as quickly as possible. First aid is the initial effort to help a victim while medical help is on the way. If you are alone with the victim, ensure the victim is breathing and not being further exposed to the pesticide before you call for emergency help.

NOTE: If a person is suspected of oral poisoning and is not breathing **DO NOT** apply mouth to mouth resuscitation. Apply other forms if available but **DO NOT** exposure yourself to the poison they have in their system.

In an emergency, look at the pesticide labeling, if possible. If it gives specific first aid instructions, follow those instructions carefully. If labeling instructions are not available, follow these general guidelines for first aid:

- Rinse mouth with plenty of water.

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

- Give victim large amounts (up to 1 quart) of milk or water to drink.
- Induce vomiting only if instructions to do so are on the labeling.

Procedures for Inducing Vomiting:

- Position victim face down or kneeling forward. Do not allow victim to lie on his or her back, because the vomit could enter the lungs and do additional damage.
- Put finger or blunt end of a spoon at the back of victim's throat or give syrup of ipecac.
- Do not use salt solutions to induce vomiting.

Do not induce vomiting:

- If the victim is unconscious or is having convulsions.
- If the victim has swallowed a corrosive poison. A corrosive poison is a strong acid or alkali. It will burn the throat and mouth as severely coming up as it did going down. It may get into the lungs and burn there also.
- If the victim has swallowed an emulsifiable concentrate or oil solution. Emulsifiable concentrates or oil solutions may cause death if inhaled during vomiting.

- **DERMAL POISONING:**

Dermal poisoning occurs when poison penetrates the skin surface by absorption or entering open wounds. Some pesticides contain chemicals that can be harmful to your skin on contact, causing itching, blistering, cracking, or causing your skin to change in color. Your skin and eyes normally function to protect you from potentially harmful substances that you come in contact with. However, some pesticides contain substances that can penetrate the natural barrier provided by your skin and eyes. Once inside, the pesticide can be carried by the blood stream and cause harm to you through acute effects, delayed affects, and allergic reactions.

Assuming that all pesticides are toxic, pest managers must have a basic understanding of preventative handling and, if exposure should occur, first aid procedures. Exposure through dermal contact is one of the easiest to avoid. When handling pesticides, whether during preparation, storing, or application, proper measures should be taken to avoid contact with the skin and eyes. Each time you prepare to work around any type of pesticide, protective gear s should be donned. Your protective gear should consist of cotton coveralls, unlined neoprene gloves, half or full-face respirator, and goggles. Areas that are very susceptible to dermal poisoning are the groin area (primarily) and the eyes.

- **FIRST AID FOR DERMAL POISONING**
  - Drench skin and clothing with plenty of water. Any source of relatively clean water will serve. If possible, immerse the person in a pond, creek, or other body of water. Even water in ditches or irrigation systems will do, unless you think they may have pesticides in them.
  - Remove personal protective equipment and contaminated clothing. Wash skin and hair thoroughly with a mild liquid detergent and water. If one is available, a shower is the best way to completely and thoroughly wash and rinse the entire body surface.
  - Dry victim and wrap in a blanket or any clean clothing on hand. Do not allow to become chilled or over-heated. If skin is burned or otherwise injured, cover immediately with a loose, clean, dry, soft cloth or bandage. Do not apply ointments, greases, powders, or other drugs in first aid treatment of burns or injured skin.

- If pesticides get in the eyes wash eyes quickly but gently. Use an eyewash dispenser, if available. Otherwise, hold eyelid open and wash with a gentle drip of clean running water positioned so that it flows across the eye rather than directly into the eye. Rinse eye for 15 minutes or more. Do not use chemicals or drugs in the rinse water, they may increase the injury.
- When first aid efforts are beyond your scope of ability or the injuries are sever, seek medical attention immediately.

- **RESPIRATORY POISONING:**

Respiratory poisoning comes from inhaling pesticides through the nose or the mouth. Inhalation poisoning occurs when pest managers:

- Fail to wear respiratory protection
- Wear the incorrect respirator for the application
- Wear a respirator whose cartridge filter has broken through
- Wear a respirator incorrectly
- Wear a damaged respirator
- Wear a contaminated respirator
- In summary, if a person is suspected of inhalation poisoning, first check their respirator.

- **FIRST AID FOR RESPIRATORY POISONING**
  - Get victim to fresh air immediately.
  - If other people are in or near the area, warn them of the danger.
  - Loosen tight clothing on victim that would constrict breathing.
  - Apply artificial respiration if breathing has stopped or if the victim's skin is blue.
  - If pesticide or vomit is on the victim's mouth or face, avoid direct contact

NOTE: If a person is suspected of respiratory poisoning and is not breathing **DO NOT** apply mouth to mouth resuscitation. Apply other forms if available but **DO NOT** exposure yourself to the poison they have in their system.

Review Questions
for
FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

Question	Answer
1. How do pesticides control dangerous or nuisance animals, plants, and weeds?	a. Disrupting life sustaining bodily functions b. Making the target unpalatable c. Making the non target unpalatable d. Removing their food source
2. Which is a cause of inhalation poisoning?	a. Using a respirator improperly b. Smoking at the job site c. Failure to shower after applying pesticides d. Using damaged gloves
3. Inducing a victim to vomit for oral poisoning is performed all the time.	a. True b. False
4. When you suspect pesticide poisoning, what should you take into the hospital for the physician?	a. Material Safety Data Sheet and pesticide label only b. Material Safety Data Sheet and pesticide container only c. Material Safety Data Sheet only d. Pesticide label and container only
5. How can smoking cigarettes lead to oral pesticide poisoning?	a. Cigarettes may absorb pesticide from the air b. Smoking compromise the body's immune system c. Cigarette smoke condenses suspended pesticide particles d. Only filtered cigarettes can lead to oral pesticide poisoning
6. What is the first step for dermal poisoning?	a. Drench skin and clothing with water b. Seek medical attention c. Induce vomiting d. Begin artificial respiration
7. What is the first aid step for chemical burns?	a. Cover with a clean bandage only b. Apply a light oil ointment and bandage c. Apply powder mixture and bandage d. Apply grease solution and bandage
8. How long should eyes be flushed with water to treat for contamination?	a. 15 minutes b. 12 minutes c. 9 minutes d. 5 minutes

Review Questions
for
FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

Question	Answer
9. What is the first step to treat a person exposed to respiratory poisoning?	a. Get them into fresh air b. Drench skin and clothing with water c. Seek medical attention d. Induce vomiting

FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

Performance Checklist		
Step	**Yes**	**No**
1. Did trainee obtain a pesticide label and MSDS sheet for a pesticide?		
2. Did trainee read the material?		
3. Did trainee understand the first aid procedures?		
4. Was trainee able to explain steps in first aid procedures?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

NOTE TO TEAM: DELETE THESE LAST TWO LESSONS, THEY ARE IN THE PREVIOUS LESSON—APPROVED BY MSGT RON BROWN

ENVIRONMENTAL

APPLY FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

MODULE 12 **AFQTP UNIT 5**

DERMAL (12.5.2.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

DERMAL

Task Training Guide

STS Reference Number/Title:	12.5.2., Dermal
Training References:	• Military Pest Management Handbook • EPA-Applying Pesticides Correctly, Unit 6 (NOTE for MSgt Ron Brown: Due to the unavailability of these sources, this lesson should be check to ensure there are not conflicts)
Prerequisites:	• Possess as a minimum, a 3E433 AFSC.
Equipment/Tools Required:	• Material Safety Data Sheets • Product Label
Learning Objective:	• Trainee must be able to identify and apply appropriate first aid procedures.
Samples of Behavior:	• Trainee must be able to explain dermal poisoning and identify appropriate first aid procedures.
Notes:	
• To successfully complete this element, follow the steps outlined in the lesson—no expeptions. • Any safety violation is an automatic failure.	

DERMAL

Background: Some pesticides contain chemicals that can be harmful to your skin on contact, causing itching, blistering, cracking, or causing your skin to change in color. Your skin and eyes normally function to protect you from potentially harmful substances that you come in contact with. However, some pesticides contain substances that can penetrate the natural barrier provided by your skin and eyes. Once inside, the pesticide can be carried by the blood stream and cause harm to you through acute effects, delayed affects, and allergic reactions.

Assuming that all pesticides are toxic, pest managers must have a basic understanding of preventative handling and, if exposure should occur, first aid procedures. Exposure through dermal contact is one of the easiest to avoid. When handling pesticides, whether during preparation, storing, or application, proper measures should be taken to avoid contact with the skin and eyes. Each time you prepare to work around any type of pesticide, protective gear s should be donned. Your protective gear should consist of cotton coveralls, unlined neoprene gloves, half or full-face respirator, and goggles.

FIRST AID FOR DERMAL POISONING

- Drench skin and clothing with plenty of water. Any source of relatively clean water will serve. If possible, immerse the person in a pond, creek, or other body of water. Even water in ditches or irrigation systems will do, unless you think they may have pesticides in them.

- Remove personal protective equipment and contaminated clothing. Wash skin and hair thoroughly with a mild liquid detergent and water. If one is available, a shower is the best way to completely and thoroughly wash and rinse the entire body surface.

- Dry victim and wrap in a blanket or any clean clothing on hand. Do not allow to become chilled or over-heated. If skin is burned or otherwise injured, cover immediately with a loose, clean, dry, soft cloth or bandage. Do not apply ointments, greases, powders, or other drugs in first aid treatment of burns or injured skin.

- If pesticides get in the eyes wash eyes quickly but gently. Use an eyewash dispenser, if available. Otherwise, hold eyelid open and wash with a gentle drip of clean running water positioned so that it flows across the eye rather than directly into the eye. Rinse eye for 15 minutes or more. Do not use chemicals or drugs in the rinse water, they may increase the injury.

- When first aid efforts are beyond your scope of ability or the injuries are sever, seek medical attention immediatley.

Review Questions
for
Dermal

Question	Answer
1. What are some items that should be donned for dermal protection against pesticides?	a. Cotton coveralls and lined neoprene gloves b. Vinyl coveralls and rubber gloves c. Cotton coveralls, respirator and goggles d. None of the above
2. If available, what is the best way to wash a pesticide contaminated body?	a. Emergency shower b. Swimming Pool c. Creek d. Pond
3. Immediately apply petroleum jelly, or other suitable ointment to contaminated areas on the skin.	a. True b. False
4. What type of water is used for dermal contamination?	a. Creek b. Pond c. Irrigation d. All of the above
5. At a minimum, how long should you rinse eyes if contaminated.	a. 5 min b. 10 min c. 15 min d. 20 min

DERMAL

Performance Checklist		
Step	**Yes**	**No**
1. Did the trainee obtain a pesticide label and MSDS sheet for a pesticide?		
2. Did the trainee read the material?		
3. Did the trainee understand the first aid procedures?		
4. Was the trainee able to explain steps in first aid procedures?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

ENVIRONMENTAL

APPLY FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

MODULE 12 **AFQTP UNIT 5**

RESPIRATORY (12.5.3.)

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

RESPIRATORY

Task Training Guide

STS Reference Number/Title:	12.5.3., Respiratory
Training References:	• CFR 1910.151, Subpart K • EPA-Applying Pesticides Correctly, Unit 6 (NOTE for MSgt Ron Brown: Due to the unavailability of these sources, this lesson should be check to ensure there are not conflicts)
Prerequisites:	• Possess as a minimum, a 3E433 AFSC
Equipment/Tools Required:	• Material Safety Data Sheets • Pesticide Labels
Learning Objective:	• The trainee should learn the first aid procedures for pesticide poisoning.
Samples of Behavior:	• Trainee should explain the procedures for first aid treatment of pesticide poisoning.
Notes:	
• To successfully complete this element follow the steps outlined in the lesson no--exceptions. • Any safety violation is an automatic failure.	

RESPIRATORY

Background: Pesticides are designed to harm or kill pests. The human system is similar to some pests that these pesticides try to harm or kill, that effect humans in the same way. Fortunately, humans usually can avoid being exposed to pesticides. Pesticides that are chemically similar to one another, cause the same type of harmful effects in humans. These effects may be mild or severe, depending on the pesticide involved and the amount of overexposure. A good equation to remember is **Hazard = Toxicity x Exposure.**

One of the major concerns in the application of pesticides is **pesticide poisoning**. Pesticide poisoning harms the internal organs or other systems inside the body. **Oral exposure, inhalation exposure and dermal exposure** are the three main classifications of exposure. These classifications and their first aid procedures will be explained in more detail.

The three exposure classifications and their first aid procedures are listed in the chart below.

Pesticide Poisoning First Aid Chart

Exposure Classification	Causes of Exposure	General First Aid Procedures
Oral	• Not washing hands before eating, drinking, smoking or chewing. • Mistaking the pesticide for food or drink. • Accidentally applying pesticides to food. • Splashing pesticide into the mouth through carelessness or accident.	• Rinse mouth with plenty of water. • Give victim large amounts (up to one quart) of milk or water to drink. • Induce vomiting only if instructions to do so are on the labeling.

Pesticide Poisoning First Aid Chart

Exposure Classification	Causes of Exposure	General First Aid Procedures
Dermal	• Not washing hands after handling pesticides or their containers. • Splashing or spraying pesticides on unprotected skin or eyes. • Wearing pesticide-contaminated clothing (including boots and gloves). • Applying pesticides (or flagging) in windy weather. • Wearing inadequate personal protective equipment while handling pesticides. • Touching pesticide-treated surfaces.	• Drench skin and clothing with plenty of water. Any source of relatively clean water will serve. If possible, immerse the person in a pond, creek, or other body of water. Water in ditches or irrigation systems will do, unless you think they may have pesticides in them. • Remove person protective equipment and contaminated clothing. • Wash skin and hair thoroughly with a mild liquid detergent and water. If one is available, a shower is the best way to completely and thoroughly wash and rinse the entire body surface. • Dry victim and wrap in blanket or any clean clothing at hand. Do not allow victim to become chilled or overheated. • If skin is burned or otherwise injured, cover immediately with loose, clean, dry, soft cloth or bandage. • Do not apply ointments, greases, powders, or other drugs in first aid treatment of burns or injured skin.

Pesticide Poisoning First Aid Chart

Exposure Classification	Causes of Exposure	General First Aid Procedures
Respirator	• Prolonged contact with pesticides in closed or poorly ventilated spaces. • Breathing vapors, dust, or mist while handling pesticides without appropriate protective equipment. • Inhaling vapors present immediately after a pesticide is applied. • Using a respirator that fits poorly or using an old inadequate filter, cartridge, or canister	• Get victim to fresh air immediately. • If other people are in or near the area, warn them of the danger. • Loosen tight clothing on victim that would constrict breathing. • Apply artificial respiration if breathing has stopped or if the victim's skin is blue. • If pesticide or vomit is on the victim's mouth or face, avoid direct contact and use a shaped airway tube, if available, for mouth-to-mouth resuscitation.

SAFETY:
THESE GENERAL PESTICIDE POISONING FIRST AID STEPS DO NOT SUPERCEDE THE LABEL DIRECTIONS. ALWAYS FOLLOW THE LABEL DIRECTIONS. THE LABEL IS THE LAW. WHILE PERFORMING TESE FIRST AID STEPS, HAVE ANOTHER INDIVIDUAL TELEPHONE OR RADIO MEDICAL ASSISTANCE IMMEDIATELY. THE BASE FIRE DEPARTMENT IS ANOTHER SOUCE OF IMMEDIATELY EMERGENCY AID FOR PESTICIDE POISON VICTIMS. THE MATERIAL SAFETY DATA SHEETS (MSDS) ARE ANOTHER SOURCE FOR PESTICIDE POISONING FIRST AID PROCEDURES. A COPY OF THE MSDS FOR EACH PESTICIDE STORED AT THE FACILITY SHALL BE MAINTAINED BY THE SHOP PERSONNEL AND READILY AVAILABLE.

Review Questions
for
Respiratory

Question	Answer
1. Toxicity X Exposure =?	a. Flammability b. Hazard c. Irritation d. Neutrality
2. Respiratory exposure is contracted?	a. orally b. dermally c. by inhalation d. by swallowing
3. If a victim of pesticide poisoning had breathed in large amounts of vapors, what is the immediate first aid action to take.	a. Begin CPR b. Check breathing c. Apply artificial respiration d. Get the victim to fresh air
4. What is one way to limit respiratory exposure?	a. Use a respirator that fits b. Use the right cartridge or canister c. Use the right cartridge or filter d. All of the above
5. What the best source of first aid information for most pesticides.	a. The label b. Your supervisor c. Acute care d. Bio-environmental

RESPIRATORY

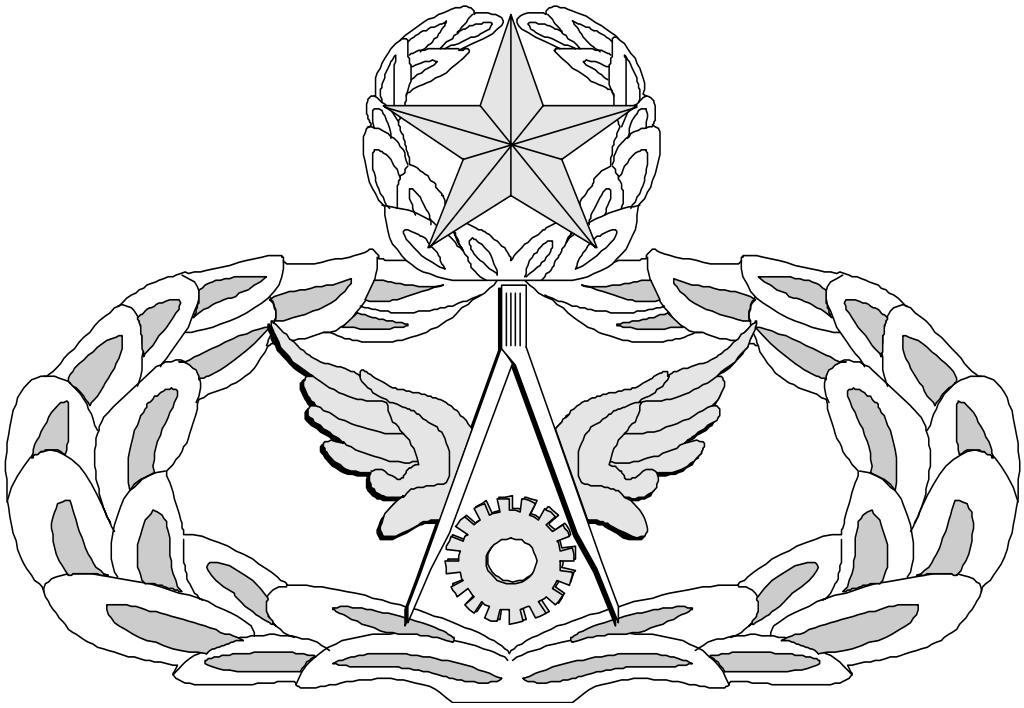
Performance Checklist		
Step	**Yes**	**No**
1. Did the trainee obtain a pesticide label and MSDS sheet for a pesticide?		
2. Did the trainee read the material?		
3. Did the trainee understand the first aid procedures?		
4. Was the trainee able to explain steps in first aid procedures?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

Air Force Civil Engineer

QUALIFICATION TRAINING PACKAGE (QTP)

REVIEW ANSWER KEY



For

ENVIRONMENTAL

(3E4X3)

MODULE 12

APPLY FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING

Notice. This AFQTP is *NOT* intended to replace the applicable technical references nor is it intended to replace hands-on training. It is to be used in conjunction with these for training purposes only.

Interpret Parts of Label
(12.2.1)
Identify Signal Words/Symbols
(12.2.2.)
(IMPORTANT NOTE: PLEASE REORDER THE QUESTIONS AND ANSWERS SO THE CORRECT RESPONSE IS NO ALWAYS "A")

Question	Answer
1. What communicates specific pesticide usage requirements to the applicator?	a. Pesticide label
2. 2. What language(s) does the EPA require labels to be printed in?	a. English only
3. What simple pesticide name does all manufacturers use to identify a product?	a. Common name
4. What is true about the manufacturer's establishment number?	a. It usually appears beneath the registration number.
5. What unit(s) are a container's net contents expressed in?	d. Any standardized unit
6. What part of the pesticide label lists how, where, and when to apply a product?	c. Directions for use
7. Pesticide are available in more than one formulation.	a. True
8. What part of the label provides information about environmental hazards?	a. Warning and Precautionary statement
9. Why must pressurized pesticide contain a warning or precautionary statement?	a. The container will burst at temperatures above 130°F
10. What are the two EPA pesticide classifications?	a. General and restricted use
11. What is the signal word for Toxic Category II pesticides?	d. Warning

GLOVES

APRONS

FACE SHIELDS/GOGGLES

HEARING PROTECTION

COVERALLS

BOOTS

RESPIRATORS
(IMPORTANT NOTE: PLEASE REORDER THE QUESTIONS AND ANSWERS SO THE CORRECT RESPONSE IS NO ALWAYS "A")

Question	Answer
1. What makes up personal protection equipment (PPE) according to the Environmental Protection Agency (EPA)?	a. Hardhats, respirators, hearing protection
2. Where must pesticide manufactures list PPE requirements?	a. "Direction for Use" and "Hazard to Humans and Domestic Animals" label statements
3. Who conducts the respirator fit test?	a. Bioenvironmental Engineering
4. What pesticide applications required gloves to be worn on the outside of the coveralls?	a. Overhead spraying
5. How often must you disinfect your respirator?	a. At least monthly
6. Which is true about cleaning gloves?.	a. Flush both the inside and outside
7. Which is true about disinfecting face shields and goggles?	a. Use a 10% deodorant fungicide solution

FIRST AID PROCEDURES FOR VICTIMS OF PESTICIDE POISONING (3E4X3-12.5.1.)
(IMPORTANT NOTE: PLEASE REORDER THE QUESTIONS AND ANSWERS SO THE CORRECT RESPONSE IS NO ALWAYS "A")

Question	Answer
1. How do pesticides control dangerous or nuisance animals, plants, and weeds?	a. Disrupting life sustaining bodily functions
2. Which is a cause of inhalation poisoning?	a. Using a respirator improperly
3. Inducing a victim to vomit for oral poisoning is performed all the time.	b. False
4. When you suspect pesticide poisoning, what should you take into the hospital for the physician?	a. Material Safety Data Sheet and pesticide label only
5. How can smoking cigarettes lead to oral pesticide poisoning?	a. Cigarettes may absorb pesticide from the air
6. What is the first step to dermal poisoning?	a. Drench skin and clothing with water
7. What is the first aid step for chemical burns?	a. Cover with a clean bandage only
8. How long should eyes be flushed with water to treat for contamination?	a. 15 minutes
9. What is the first step to treat a person exposed to respiratory poisoning?	a. Get them into fresh air